



Docket No.: 9988.075.00
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

DO, Gi Hyeong

Customer No.: 30827

Application No.: 10/716,444

Confirmation No.: 6634

Filed: November 20, 2003

Art Unit: 3749

For: LAUNDRY DRYER AND CONTROL
METHOD THEREOF

Examiner: Stephen M. Gravini

MS Appeal Brief - Patents

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S APPEAL BRIEF

Sir:

Further to the Notice of Appeal filed September 15, 2008, Appellant hereby submits this Appeal Brief.

The fees required under § 1.17(f) and any required petition for extension of time for filing this brief and fees therefore are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37(c):

- I. Real Party In Interest**
- II. Related Appeals and Interferences**
- III. Status of Claims**
- IV. Status of Amendments**
- V. Summary of Claimed Subject Matter**
- VI. Grounds of Rejection to be Reviewed on Appeal**

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VII. Argument

VIII. Conclusion

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I. REAL PARTY INTEREST

The real party in interest for this appeal is: LG Electronics Inc.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Total Number of Claims in the Application.

There are 12 claims pending in this application.

Current Status of Claims:

Claims canceled: 5 and 13-14.

Claims withdrawn from consideration but not canceled: 15.

Claims pending: 1-4, 6-12 and 15.

Claims allowable: None.

Claims rejected: 1-4 and 6-12.

Claims on Appeal: 1-4 and 6-12.

IV. STATUS OF AMENDMENTS

The Examiner issued a Final Rejection on May 14, 2008. In that Rejection the Examiner rejected claims 1-4 and 6-12. A Notice of Appeal was then filed on September 15, 2008. In this appeal all the claims 1-4 and 6-12 are being appealed. The pending claims are as in the Amendment filed February 16, 2007, which are reflected in the Claims Appendix.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention is directed to a laundry dryer in which a temperature sensor is employed to enable a dynamic adjustment of cooling time after completion of a drying procedure. *Specification at paragraph [0002].*

As shown in Fig 3, by way of example, the claimed laundry dryer includes a temperature sensor 240 for sensing an internal temperature of the laundry dryer and outputting a sensed temperature signal indicative of the internal temperature (Fig. 3, paragraph [0023]); and a microcomputer 250 for controlling a plurality of drivers associated with a heater, motor and exhaust fan according to the sensed temperature signal from said temperature sensor (Fig. 3, paragraph [0025]), wherein said microcomputer stops the heater and the motor, thereby initiating a cooling procedure, and the exhaust fan driver operates during the cooling procedure, such that the exhaust fan draws air out of a drum in the dryer (Fig. 3, paragraphs [0022], [0023] and [0025]).

In another aspect of the claimed invention, as shown in Fig. 4, a method of controlling a laundry dryer includes performing a drying procedure S10, wherein a motor, a heater and an exhaust fan are driven during the drying procedure (Fig. 4, paragraph [0024]); performing a cooling procedure S30, wherein the motor and heater are stopped during the cooling procedure (Fig. 4, paragraph [0025]); driving the exhaust fan to draw air from a drum in the dryer during

the cooling procedure S30 (Fig. 4, paragraphs [0023] and [0025]); sensing an internal temperature of the laundry dryer during said cooling procedure step S40 (Fig. 4, paragraph [0025]); comparing the sensed internal temperature with a predetermined temperature value S40 (Fig. 4, paragraph [0025]); and stopping the cooling procedure step S50 if the sensed temperature is lower than a predetermined temperature Fig. 4, paragraph [0025]).

In yet another aspect of the claimed invention, as shown in Figs. 1 and 3, a laundry dryer comprises a drum 30 (Fig. 1, paragraph [0004]), a heater 20 for heating air introduced into the drum (Fig. 1, paragraph [0005]), a motor 50 for rotating the drum (Fig. 1, paragraph [0004]), an exhaust fan 40 for drawing air out of the drum (Fig. 1, paragraph [0004]), a temperature sensor 240 for sensing an internal temperature of the drum during a drying procedure and a cooling procedure, wherein the sensor outputs a sensed temperature signal indicative of the internal temperature of the drum during the drying procedure and the cooling procedure (Fig. 3, paragraph [0022]), a microcomputer 250 receives the sensed temperature signal indicative of the internal temperature of the drum and actuates a plurality of drivers associated with the heater, the motor and the exhaust fan according to the sensed temperature signal during the drying procedure, following the drying procedure, the cooling procedure begins, wherein the actuation of the exhaust fan continues throughout the entire cooling procedure, the actuation of the heater and the motor is discontinued throughout the entire cooling procedure (Fig. 3, paragraphs [0023], [0024] and [0025]).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Are claims 1-4, 6-9, 11 and 12 properly rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,245,764 to Sung (hereinafter “*Sung*”) in view of JP 4-200592 to Takeyama (hereinafter “*Takeyama*”).

B. Are claims 1-4 and 6-12 properly rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-15 of U.S. Patent No. 6,957,501 in view of claims 1-11 of U.S. Patent No. 6,775,923?

VII. ARGUMENT

A. The Examiner erred in rejecting claims 1-4, 6-9, 11 and 12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,245,764 to Sung (hereinafter “Sung”) in view of JP 4-200592 to Takeyama (hereinafter “Takeyama”).

Initially, the Appellant notes that the anticipation rejection is based on two references. MPEP 2131.01 explains, “[n]ormally, only one reference should be used in making a rejection under 35 U.S.C. 102. However, a 35 U.S.C. 102 rejection over multiple references has been held to be proper when the extra references are cited to: (A) [p]rove the primary reference contains an ‘enabled disclosure’; (B) [e]xplain the meaning of a term used in the primary reference; or (C) [s]how that a characteristic not disclosed in the reference is inherent.” In the instant case, the Examiner relies upon the extra references to show that it would have been obvious to one skilled in the art to combine the teachings of Sung and Takeyama. The Appellant respectfully submits that the Examiner erred in rejecting the claims as anticipated for at least this reason. Moreover, the appellant respectfully submits that the claims are not obvious over *Sung* in view of *Takeyama* as explained below.

Claim 1 recites a laundry dryer which includes, among other features, “a microprocessor for controlling a plurality of drivers associated with a heater, motor and exhaust fan...wherein said microcomputer stops the heater and the motor, thereby initiating a cooling procedure, and the exhaust fan operates during the cooling procedure...” Claim 9 recites a method for controlling a laundry dryer, which includes, among other features, “performing a cooling procedure, wherein the motor and heater are stopped during the cooling procedure” and “driving the exhaust fan...during the cooling procedure”.

It is well established that the Examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). A prima facie case of obviousness is not made unless each and every limitation of a claim is shown to be taught or obvious in view of the applied prior art. Moreover, the basis in the prior art and the reasons

for obviousness must be evident in the rejection. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), cited with approval, *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). The Appellant submits that at least the above-recited features have not been shown to be taught or obvious in view of *Sung* and *Takeyama*.

In particular, the determination of obviousness is based on two mistaken premises. First, the Final Office Action alleges at page 3 that *Sung* discloses “performing a cooling procedure, wherein the motor and heater are stopped during the cooling procedure at column 2, lines 9-21;...wherein said microcomputer drives the exhaust fan during the cooling procedure”. Second, the Final Office Action alleges at page 4 that the abstract of *Takeyama* discloses “operating the exhaust fan driver or driving the exhaust fan when the motor and heater are stopped”. Each of these allegations lack any basis in the applied prior art.

Sung discloses that “a heat exchanging fan 4 ... is driven by the driving force of the motor 1 to intake external air into the interior of the outer case 3 ... [to] carry out a heat exchange between the air and the high temperature moist air in the drum 5.” *See column 4, lines 55-60*. In other words, when the motor is not driven the heat exchanging fan is not driven. Therefore, *Sung* cannot possibly teach “performing a cooling procedure, wherein the motor and heater are stopped during the cooling procedure...; wherein said microcomputer drives the exhaust fan during the cooling procedure”. For at least this reason, the Appellant respectfully submits that the Examiner erred in rejecting the claims..

The abstract of *Takeyama* discloses “electric conduction is executed to a heater 13, while repeating an intermittent operation off, for instance, ‘one second driving’ after ‘10 minutes stop’ with respect to a rotation of a drum 1 under the control of a control switch 14, and during that time, a blowing fan 6 rotates and continues ventilation. Accordingly, clothes are tumbled in the drum at an interval of one second in ten minutes, while being dried by blowing hot air”. Thus, the abstract of *Takeyama* lacks disclosure of “operating the exhaust fan driver or driving the exhaust fan when the motor and heater are stopped”. Specifically, *Takeyama* substantially teaches operating the exhaust fan while the heater is on, as described in the abstract thereof. For at least this reason, the Appellant respectfully submits that the Examiner erred in rejecting the claims.

For at least the aforementioned reasons, the Appellant submits that a prima facie case of obviousness is not made and claims 1 and 9 patentably distinguishable over *Sung* and *Takeyama*. Likewise, claims 2-4, 6-8, 11 and 12, which variously depend from claims 1 and 9 are also patentable for at least the same reasons. Accordingly, the rejection under 35 U.S.C. § 103 (a) over *Sung* in view of *Takeyama* is improper and should be reversed.

B. The Examiner erred in rejecting claims 1-4 and 6-12 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent 6,957,501 (hereinafter “the ‘501 patent”) in view of claims 1-11 of U.S. Patent No. 6,775,923 (hereinafter “the ‘923 patent”).

The currently pending claims 1-4 and 6-12 are not obvious with respect to the claims of the ‘501 patent in view of the claims of the ‘923 patent. Claim 1 recites a laundry dryer which includes, among other features, “a microprocessor for controlling a plurality of drivers associated with a heater, motor and exhaust fan...wherein said microcomputer stops the heater and the motor, thereby initiating a cooling procedure, and the exhaust fan operates during the cooling procedure...” Claim 9 recites a method for controlling a laundry dryer, which includes, among other features, “performing a cooling procedure, wherein the motor and heater are stopped during the cooling procedure” and “driving the exhaust fan...during the cooling procedure”.

The claims of the ‘501 patent and ‘923 patent, alone or in combination, fail to render obvious at least the combination of these features of the claimed invention. The claims of the ‘501 patent is directed to a cooling fan driven to cool down a condenser. The claims, however, do not recite features performed during a cooling procedure. Thus the claims of the ‘501 patent do not render obvious claims 1 and 9 of the present application. The ‘923 patent, on the other hand, claims features directed to the drying procedure. However, none of the claims recite or render obvious features performed during the cooling procedure, and thus the claims of the ‘923 patent fails to render obvious claims 1 and 9 of the present application. Accordingly, claims 1 and 9 are not obvious, and are therefore patentable, over claims 1-15 of the ‘552 patent in view of claims 1-11 of the ‘923 patent. Likewise, claims 2-4, 6-8, 10, 11 and 12, which variously depend from claims 1 and 9, are also patentable for the same reasons.

Therefore, Appellant submit that the rejection under the judicially created doctrine of obviousness-type double patenting is improper and should be reversed.

VII. CONCLUSION

For reasons as discussed above, claims 1-4, 6-9, 11 and 12 were improperly rejected under 35 U.S.C. §102(b) as being anticipated by *Sung* in view of *Takeyama*; and claims 1-4 and 6-12 were improperly rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-15 of the ‘501 patent in view of claims 1-11 of the ‘923 patent.

The Honorable Board is requested to reverse the rejection set forth in the final Office Action and direct the Examiner to pass this application to issue.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: November 17, 2008

Respectfully submitted,

By _____

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CLAIMS APPENDIX

Claims Involved in the Appeal of Application Serial No. 10/716,444

1. (Previously Presented) A laundry dryer comprising:
 - a temperature sensor for sensing an internal temperature of the laundry dryer and outputting a sensed temperature signal indicative of the internal temperature; and
 - a microcomputer for controlling a plurality of drivers associated with a heater, motor and exhaust fan according to the sensed temperature signal from said temperature sensor, wherein said microcomputer stops the heater and the motor, thereby initiating a cooling procedure, and the exhaust fan driver operates during the cooling procedure, such that the exhaust fan draws air out of a drum in the dryer.
2. (Previously Presented) The laundry dryer as claimed in claim 1, wherein said microcomputer controls the plurality of drivers by comparing the sensed internal temperature with a predetermined temperature value.
3. (Previously Presented) The laundry dryer as claimed in claim 2, wherein the predetermined temperature value corresponds to an internal temperature of 50°C.
4. (Previously Presented) The laundry dryer as claimed in claim 1, wherein the sensed temperature signal indicates the internal temperature of the laundry dryer during the cooling procedure.

5. (Canceled)

6. (Previously Presented) The laundry dryer as claimed in claim 1, wherein said microcomputer drives the exhaust fan during the cooling procedure.

7. (Previously Presented) The laundry dryer as claimed in claim 1, wherein the sensed temperature signal indicates the internal temperature of the laundry dryer after completion of a drying procedure.

8. (Previously Presented) The laundry dryer as claimed in claim 7, wherein the heater, motor, and exhaust fan are driven during the drying procedure.

9. (Previously Presented) A method of controlling a laundry dryer, comprising steps of:

performing a drying procedure, wherein a motor, a heater and an exhaust fan are driven during the drying procedure;

performing a cooling procedure, wherein the motor and heater are stopped during the cooling procedure;

driving the exhaust fan to draw air from a drum in the dryer during the cooling procedure;
sensing an internal temperature of the laundry dryer during said cooling procedure step;
comparing the sensed internal temperature with a predetermined temperature value; and
stopping said cooling procedure step if the sensed temperature is lower than a predetermined temperature.

10. (Previously Presented) The method as claimed in claim 9, wherein the predetermined temperature value corresponds to an internal temperature of 50°C.

11. (Previously Presented) The method as claimed in claim 9, further comprising the drying procedure being completed before initiation of said cooling procedure step.

12. (Previously Presented) The method as claimed in claim 9, further comprising the step of controlling a plurality of drivers associated with the heater, motor, and the exhaust fan according to the sensed internal temperature signal.

13. (Canceled)

14. (Canceled)

15. (Withdrawn) A laundry dryer comprising:
a drum;
a heater for heating air introduced into the drum;
a motor for rotating the drum;
an exhaust fan for drawing air out of the drum;
a temperature sensor for sensing an internal temperature of the drum during a drying procedure and a cooling procedure, wherein the sensor outputs a sensed temperature signal indicative of the internal temperature of the drum during the drying procedure and the cooling procedure;

a microcomputer receives the sensed temperature signal indicative of the internal temperature of the drum and actuates a plurality of drivers associated with the heater, the motor and the exhaust fan according to the sensed temperature signal during the drying procedure, following the drying procedure, the cooling procedure begins, wherein the actuation of the exhaust fan continues throughout the entire cooling procedure, the actuation of the heater and the motor is discontinued throughout the entire cooling procedure.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.